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File

[redacted] 25X1

29 January 1964

MEMORANDUM FOR THE RECORD:

1. SUBJECT: PAR 215, Contract [redacted] Roller Transport Processor (24 Inch) 25X1

25X1 2. REFERENCES: a. [redacted] Quarterly Report,
25X1 Contract [redacted] Second Quarter, FY 64

b. Conference at P&DS, 23 January 1964

3. ACTION REQUIRED: Review design objectives for requirements.

4. ACTION TAKEN: Reorient the design objective to provide for the following:

a. Accept roll material 20 inches wide by 250 feet in length.

b. Accept cut sheet material up to 20 inches wide by 38 inches in length.

c. Integral drying to a semi-mat finish.

d. Automatic temperature control and replenishment of developer.

5. COORDINATION: The above design objectives were discussed with Mr. [redacted] 25X1
25X1 of PSD on 28 January 1964, each of whom concur with the reoriented objectives.

6. COPIES FURNISHED: [redacted]

[redacted]
Development Branch, P&DS

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Declass Review by NGA.

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DESIGN OBJECTIVE

## Roller Transport Processor (24-Inch)

(PAR-215)

### Problem

Briefing charts and other large prints are currently handled in essentially tray equipment. Such equipment is extremely wasteful of space, cumbersome and inefficient both in the use of operator effort and in the maintenance of quality.

### Proposal

We propose to adapt the self-threading principle of the RT processors to a wide machine capable of handling sheets up to 24-inches wide in either film on treated paper base materials. Provision will also be made for the easy attachment of a take-up module to handle a continuous web up to 10 inches wide. In some cases a lead tab may be required to pilot the leading edge through the machine.

The characteristics of the proposed processor are covered in the attached Specification No. 204 which includes a typical layout for such a machine.

Modular design will be attempted so that conversion to other processing cycles may be achieved by adding the necessary modules.

Coordination Sheet

ILLEGIB

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Spec No. 204

# Specification for Roller Transport Processor (24-inch)

**Mission:** Build a self-threading photographic processor capable of processing sheets up to twenty-four inches wide. Provide a 12-inch take-up module to handle continuous web materials.
20 wide

**Processing Method:** Roller transport conveyance through deep tanks. Agitation accomplished by action of the conveying rollers.

**Material Capabilities:** Film Size

Cut Sheet - Minimum - 4 x 5 inches

Maximum - 24 inches wide, up to 10 ft. in length

Note: Cut sheet films must be packaged and shipped in cut sheet form

Not cut from roll stock.

Continuous Strip - Minimum - 16mm

Maximum - 10 inches — 20'

Material: Certain types of black and white aerial and commercial films. Black and white treated paper base material.

It should be recognized that with roller transport equipment, some of the thinner base materials may require a pilot tab at the leading edge in order to be self-threading.

Output Rates: (approximate)

Print Material - 8 Ft/min.
Negative Material - 4 Ft/min.

**Process Time:** Dry to Dry:

Print Material - 7 min.
Negative Material - 14 min.

**Product Quality:** Good commercial quality.

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**Physical Dimensions:** Overall Dimensions (approximate)

Length - 11 ft. 6 inches

Width - 40 inches

Height - 48 inches

Weight - 1,500 lb.

**Rack Hoist:** Light, hand operated rack hoist required to remove processing racks from machine, furnished with equipment.

**Service Requirements:**

**Power:** 120/208 volt, 3 phase, 4 wire 60 cycle a. c. can be converted to 230 volt, 3 phase, 3 wire or 230 volt single phase, 3 wire, 12 to 15 kilowatts.

**Water:** Hot (150°F) and cold (60°F Max.) service to operating area at 45 psi minimum. Total consumption 6 to 8 gallons per minute controlled to $\pm\frac{1}{2}$°F. Operating range 70°F. to 110°F.

**Air:** 25 psi instrument air.

**Sewer:** 4-inch Duriron service line.

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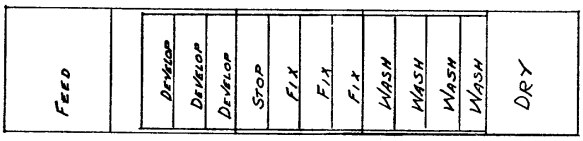


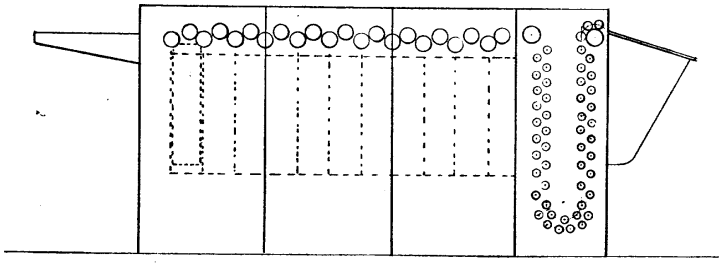

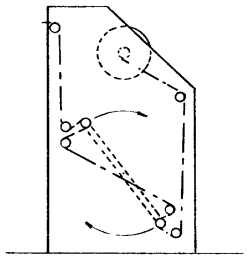

CUTTING, VIEWING & WINDING
MODULE

FIG. 1

SPEC NO 204

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SECRET

IN 5499
File: RFD
2 Feb 64

IN 61574

25X1

SECRET 052027Z

4

[redacted]

25X1 1. AT CONFERENCES AT [redacted] ON 3 AND 4 FEBRUARY ON CONTRACT [redacted] 25X1 CHANGES WERE DISCUSSED TO OUR PROPOSALS IN THE QUARTERLY REPORT DATED 6 DECEMBER 1963 ON PARS 214 AND 215. REVISED SPECIFICATIONS ACCEPTABLE TO THE TECHNICAL REPRESENTATIVE, [redacted] 25X1 WERE PREPARED AND SUBMITTED.

2. SPECIFICATION CHANGES REQUESTED IN PAR 214 SHOULD NOT MATERIALLY CHANGE COST ESTIMATES AVAILABLE AT THIS TIME. SPECIFICATION CHANGES TO PAR 215 SUCH AS MAGAZINE FEED, AND DRUM DRYING INCLUDING SELF THREADING FEATURE, IF FEASIBLE, MAY CHANGE FABRICATION COSTS.

3. WHILE PRELIMINARY WORK ON PAR 206 CAN BE ACCOMPLISHED WITHOUT THE MACHINE OF PAR 214, FINALIZATION OF RESULTS WILL REQUIRE THE MACHINE. THEREFORE, DESIGN AND FABRICATION OF THE BASIC MACHINE SHOULD PROCEED CONCURRENTLY WITH PAR 206. [redacted] HAS ALREADY 25X1 INDICATED A REQUIREMENT FOR PAR 214.

4

4. YOUR ATTENTION IS INVITED TO THE FACT THAT THESE PROGRAMS HAVE BEEN ESTIMATED ON THE BASIS THAT BOTH WILL BE DONE.

5. WE THEREFORE REQUEST IMMEDIATE AUTHORIZATION TO PROCEED ON 25X1 ALL PHASES OF BOTH PARS 214 AND 215. ~~Provide for investigation of feasibility on an attainable target to~~ [redacted] SECRET ~~buy parts as part of this task.~~

-END OF MESSAGE-

Telephoned concurrence to para 5, above, to [redacted] 86
Orce on 1 Feb 64. See memo of conference. RFD

SECRET

[redacted] 25X1

GROUP 1
Excluded from automatic downgrading and declassification

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ROUGH DRAFT AL 85-700045-4
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# APPENDIX A
# SPARE PARTS LIST

## A.1 Flyaway Spare Parts List

Listed below are the parts included in the Flyaway Spare Parts Kit supplied with the RT-24 Processor.

| Part No. | Part Description | Qty. Per Kit |
|---|---|---|
| 1-120-D-1056 | Turnaround Assembly Complete | 1 |
| 1-120-D-1059 | Rack Assembly Complete | 1 |
| 1-120-D-1060 | Crossover Assembly Complete | 1 |

## A.2 Depot Spare Parts List

Parts included in this list are recommended to maintain one machine in normal operation for one year. These parts are supplied only at customer request.

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| Used on Assembly Drawing | Part No. | A.P.S. Part No.* | Part Description | Recommended Quantity |
|---|---|---|---|---|
| 1-120-D-1060 | 120-B-010 | 457345 | Stud | 30 |
| 1-120-D-1016 | 120-A-016 | 457459-A | Bearing | 50 |
| 1-120-D-1056 | | | | |
| 1-120-D-1060 | | | | |
| 1-120-D-1317 | | | | |
| 1-120-D-1060 | 120-A-018 | | Bearing | 182 |
| 1-120-D-1016 | 120-B-022 | 457463-A | Gear | 20 |
| 1-120-D-1056 | | | | |
| 1-120-D-1060 | | | | |
| 1-120-D-1317 | | | | |
| 1-120-E-1084 | 120-A-034 | | Gear | 14 |
| 1-120-E-1084 | 120-A-036 | | Gear | 8 |
| 1-120-E-1084 | 120-A-037 | 452252 | Bearing | 24 |
| 1-120-E-1084 | 102-A-038 | 452354 | Bearing | 14 |
| 1-120-E-1084 | 120-A-040 | 453721 | Bearing | 12 |
| 1-120-E-1084 | 120-A-041 | | Gear | 5 |
| 1-120-E-1084 | 120-B-050 | 452929 | Special Screw | 7 |
| 1-120-E-1084 | 120-A-059 | | Gear | 2 |
| 1-120-D-1016 | 120-B-099 | 452016 | Special Nut | 20 |
| 1-120-D-1060 | | | | |
| 1-120-D-1317 | | | | |

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* Numbers listed in this column can be used to order replacement parts from Apparatus Parts Service, [redacted]

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| Used on Assembly Drawing | Part No. | A.P.S. Part No.* | Part Description | Recommended Quantity |
|---|---|---|---|---|
| 1-120-D-1016 | 120-C-114 | 452023 | Gear | 25 |
| 1-120-D-1059 | | | | |
| 1-120-D-1060 | | | | |
| 1-120-D-1317 | | | | |
| 1-120-E-1075 | 120-A-141 | 452270 | Bearing | 8 |
| 1-120-E-1075 | 120-A-146 | 452284 | Bearing | 4 |
| 1-120-E-1075 | 120-A-148 | 452289 | Bearing | 4 |
| 1-120-E-1075 | 120-A-151 | | Bearing | 3 |
| 1-120-E-1075 | 120-A-157 | 453609 | Gear | 1 |
| 1-120-E-1075 | 120-A-168 | | Bearing | 2 |
| 1-120-E-1075 | 120-B-173 | 453627 | Drive Pulley | 1 |
| 1-120-E-1075 | 120-B-187 | | Drive Pulley | 1 |
| 1-120-D-1059 | 120-C-188 | | Worm Gear | 2 |
| 1-120-E-1075 | 120-B-190 | 453463 | Pulley | 14 |
| 1-120-E-1013 | 120-A-192 | 453465 | Ball Bearing | 12 |
| 1-120-E-1025 | 120-A-230 | | Thrust Bearing | 3 |
| 1-120-E-1025 | 120-B-246 | | Worm | 1 |
| 1-120-E-1025 | 120-B-247 | 453528-A | Worm Gear | 1 |
| 1-120-E-1025 | 120-A-264 | | Bearing | 2 |
| 1-120-E-1025 | 120-A-266 | | Bearing | 2 |
| 1-120-E-1025 | 120-A-267 | | Bearing | 3 |

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| Used on Assembly Drawing | Part No. | A.P.S. Part No.* | Part Description | Recommended Quantity |
|---|---|---|---|---|
| 1-120-E-1025 | 120-A-268 | | Bearing | 2 |
| 1-120-E-1025 | 120-A-270 | | Spring | 2 |
| 1-120-E-1002 | 120-A-279 | | Rod End Bearing | 6 |
| 1-120-E-1025 | 120-A-287 | | Air Pressure Switch | 2 |
| 1-120-E-1101 | 120-A-296 | 452387 | Ball Bearing | 30 |
| 1-120-E-1350 | | | | |
| 1-120-D-1059 | 120-A-336 | 452112-C | Stud | 24 |
| 1-120-D-1059 | 120-A-339 | 452113-A | Idler | 24 |
| 1-120-D-1059 | 120-B-340 | 452548-A | Stud | 100 |
| 1-120-D-1059 | 120-B-380 | | Bearing | 24 |
| 1-120-D-1059 | 120-A-396 | 437196 | Chain - Rack | 120 ft. |
| 1-120-D-1100 | 120-A-423 | 458055 | Friction Pin | 2 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-426 | 453460 | Spur Gear | 4 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-428 | | Bearing | 4 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-429 | 452252 | Bearing | 20 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-431 | 452246 | Bearing | 4 |
| 1-120-D-1172 | | | | |



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| Used on Assembly Drawing | Part No. | A.P.S. Part No.* | Part Description | Recommended Quantity |
|---|---|---|---|---|
| 1-120-D-1100 | 120-A-436 | 452947 | Spur Gear | 2 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-437 | 452244 | Spur Gear | 2 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-441 | 458057 | Brg. Retainer | 2 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-442 | 457484 | Bearing | 4 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-443 | 458056 | Spring | 2 |
| 1-120-D-1172 | | | | |
| 1-120-E-1013 | 120-B-1007 | | Roll Sub-Assembly .730" Diameter | 6 |
| 1-120-E-1084 | | | | |
| 1-120-E-1013 | 120-B-1009 | | Roll Sub-Assembly 1.000" Diameter | 6 |
| 1-120-E-1025 | 120-B-1020 | | Sub-Assembly Upper Pacer Roll | 1 |
| 1-120-D-1016 | 120-B-1041 | | Sub-Assembly 1" Diameter Cluster Roll | 20 |
| 1-120-D-1056 | | | | |
| 1-120-D-1060 | | | | |
| 1-120-D-1317 | | | | |
| 1-120-D-1016 | 120-B-1043 | | Master Roll | 4 |
| 1-120-D-1060 | | | | |
| 1-120-E-1025 | 120-B-1049 | | Gear Gudgeon - Short | 1 |



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| Used on Assembly Drawing | Part No. | A.P.S. Part No.* | Part Description | Recommended Quantity |
|---|---|---|---|---|
| 1-120-E-1025 | 120-B-1050 | | Gear | 2 |
| 1-120-E-1025 | 120-B-1051 | | Sub-Assembly - Lower Pacer Roll | 1 |
| 1-120-E-1025 | 120-B-1052 | | Gear Gudgeon - Long | 1 |
| 1-120-D-1056 | 120-C-1057 | | Sub-Assembly - Master Roll | 2 |
| 1-120-E-1035 | 120-A-1058 | | 1/4" P. Chain and Conn. Links | 20 ft. 4 links |
| 1-120-E-1075 | | | | |
| 1-120-D-1059 | 1-120-D-1059 | | Rack Assembly and Turnaround | 1 |
| 1-120-E-1075 | 120-A-1071 | | Drive Gear | 1 |
| 1-120-E-1075 | 120-A-1072 | | Driven Gear | 1 |
| 1-120-D-1059 | 120-B-1073 | 457209 | Screen - Rack | 12 |
| 1-120-D-1059 | 120-B-1076 | | Sub-Assembly - Rack Roll | 112 |
| 1-120-E-1084 | 120-B-1085 | | Rack Sub-Assembly - .980" Diameter | 2 |
| 1-120-E-1084 | 120-B-1088 | | Roll Sub-Assembly - .730" Diameter | 2 |
| 1-120-E-1084 | 120-B-1089 | | Roll Sub-Assembly - .730" Diameter | 2 |
| 1-120-E-1084 | 120-B-1091 | | Roll Sub-Assembly - .980" Diameter | 5 |
| 1-120-E-1101 | 120-B-1113 | | Sub-Assembly - Flanged Up-Path Roll | 2 |
| 1-120-E-1101 | 120-B-1116 | | Sub-Assembly - Flanged Down-Path Roll | 2 |
| 1-120-E-1101 | 120-B-1117 | | Sub-Assembly - Plain Up-Path Roll | 10 |
| 1-120-E-1101 | 120-B-1118 | | Sub-Assembly - Plain Down-Path Roll | 10 |
| 1-120-E-1099 | 120-A-1142 | | Bearing | 2 |

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| Used on Assembly Drawing | Part No. | A.P.S. Part No.* | Part Description | Recommended Quantity |
|---|---|---|---|---|
| 1-120-D-1100 | 120-A-1152 | | Sleeve - Deflector Roll | 2 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-1153 | | Sleeve - Rubber Covered Roll | 2 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-1155 | | Spur Gear | 2 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-1156 | | Spur Gear | 2 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-A-1157 | | Drive Belt | 4 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-B-1159 | | Sub-Assembly - Foam Covered Roll | 2 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-B-1162 | | Sub-Assembly - 1" Diameter Roll | 4 |
| 1-120-D-1172 | | | | |
| 1-120-D-1100 | 120-B-1164 | | Sub-Assembly - 3" Diameter Roll | 2 |
| 1-120-D-1172 | | | | |
| 1-120-E-1099 | 120-A-1178 | | Clutch | 1 |
| 1-120-E-1099 | 120-A-1187 | | Timing Belt - Large | 1 |
| 1-120-E-1099 | 120-A-1243 | | Bearing | 2 |
| 1-120-E-1035 | 120-A-1244 | | Neon Lamp | 2 |
| 1-120-E-1099 | 120-A-1253 | | Bearing | 12 |

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| Used on Assembly Drawing | Part No. | A.P.S. Part No.* | Part Description | Recommended Quantity |
|---|---|---|---|---|
| 1-120-E-1241 | 120-A-1301 | | Fuse - 20 amps | 6 |
| 1-120-E-1241 | 120-A-1303 | | Fuse - 10 amps | 3 |
| 1-120-E-1241 | 120-A-1304 | | Fuse - 30 amps | 3 |
| 1-120-D-1317 | 120-A-1322 | | Drive Belt | 4 |
| 1-120-E-1350 | 120-A-1324 | | Filter - Make-Up Air | 1 |
| 1-120-E-1350 | 120-A-1332 | | Filter - Blower | 2 |
| 1-120-D-1317 | 120-A-1372 | | Bearing | 2 |
| 1-120-E-1350 | 120-A-1376 | | Heater - Dryer | 1 |
| 1-120-D-1317 | 120-C-1380 | | Master Roll | 1 |
| 1-120-D-1317 | 120-B-1384 | | Bearing | 6 |
| 1-120-D-1317 | 120-C-1388 | | Deflector Roll | 1 |
| 1-120-D-1241 | 120-A-1453 | | Resistor | 1 |

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* Numbers listed in this column can be used to order replacement parts from Apparatus Parts Service [redacted]

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